

REMARKS

The final Office Action of June 25, 2009 has been reviewed and the Examiner's comments carefully considered. Claims 28 and 48 have been amended, claim 53 has been cancelled and new claim 55 has been presented by way of this Amendment. Accordingly, claims 28-52, 54 and 55 are currently pending in this application, and claims 28 and 48 are in independent form, claims 1-27 being previously cancelled. Support for the amendments made herein can be found in Figs. 1a-12, at page 5, line 28 to page 15, line 31 of the specification, as filed, and in original claims 1-27, as filed. Applicant respectfully submits that no new matter is being added by way of the current Amendment.

The specification has been objected to for failing to provide antecedent basis for the subject matter of claim 53 as to a plurality of sealing discs. Claim 53 has been cancelled. Applicant respectfully requests that the objection be withdrawn.

The drawings have been objected to for failing to illustrate the claimed subject matter as to a plurality of sealing discs (claim 53); a closure comprising a sealing disc having an abutting surface (claim 28); means for urging the disc against a container annular surface (claim 28); means to prevent lateral movement of the disc (claim 28); an annular resilient membrane (claim 28); one of a Belleville washer and a wave washer (claim 35); and inturned projections (claim 36).

Claim 53, directed to the plurality of sealing discs, has been cancelled. A sealing disc with an abutting surface, means for urging a sealing disc against an annular surface, and means to prevent lateral movement of the disc are illustrated in Figs. 8-11. An annular resilient membrane (282) is illustrated in Fig. 9d. A Belleville washer (130) is illustrated in Fig. 8c. A wave washer (194) is illustrated in Fig. 10. Inturned projections are illustrated in Fig. 11. In view of the foregoing, Applicant respectfully requests that the objections to the drawings be withdrawn.

Claims 48-51 have been objected to because claim 48 is in improper independent form. Claim 48 has been amended into proper independent form, incorporating the limitations of claim 28. Applicant respectfully requests withdrawal of this objection.

Claims 34-36 stand rejected under 35 U.S.C. § 112, first paragraph, because there is no support for a closure comprising a sealing disc having an abutting surface, means for urging the disc against a container annular surface, means to prevent lateral movement of the disc relative to the container annular surface, an annular resilient membrane to be located between the abutting surfaces of the sealing disc and container annular surface, and one of a Belleville washer, a wave wash and inturned projections. This rejection is respectfully traversed.

With reference to Figs. 8-11 and page 11, line 13 to page 16, four different embodiments of the present invention are shown and described. These embodiments disclose sealing discs (66, 260, 181) having a bottom abutting surface; a Belleville washer (130), a wave washer (194) and inturned projections (201) that urge the disc against a container annular surface, caps (131, 250, 182, 200) that urge the discs against a container annular surface and prevent lateral movement of the discs relative to the container annular surface, and an annular resilient membrane (282, shown in Fig. 9d), which is located between the abutting surfaces. Accordingly, Applicant submits that the claimed subject matter of claims 34-36 is fully supported by the specification, as filed, and respectfully requests that these rejections be withdrawn.

Claims 28-30, 38, 39, 40, 44, 45, 47, 52 and 54 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent No. 597,083 to Mallo (hereinafter "Mallo"). Claims 28-30, 32, 33, 37-41, 44-47, 52 and 54 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent No. 2,116,421 to Williams (hereinafter "Williams"). Claims 28-54 stand rejected under 35 U.S.C. § 103(a) for obviousness over U.S. Patent No. 1,381,365 to Taliaferro (hereinafter "Taliaferro") in view of Mallo. In view of the foregoing amendments and the following remarks, reconsideration and withdrawal of these rejections are respectfully requested.

Independent claims 28 and 48 currently recite claim limitations as to a closure for a container defining a first extremely flat annular surface including a sealing disc defining a second extremely flat surface, which forms a first surface tension seal with the first extremely flat annular surface when they are urged into parallel abutting contact, and an annular resilient membrane, which forms a secondary seal. Further, claims 28 and 48 have also been amended to clarify that the annular resilient membrane is positioned between the sealing disc and part of the first extremely flat surface and that the extremely flat surfaces of the container and the sealing disc each have a flatness being in the order of a few wavelengths of light.

Applicant submits that Mallo, Williams and Taliaferro, taken separately or combined, fail to teach or suggest the above-mentioned claimed subject matter of claims 28 and 48, as amended.

Mallo teaches a fruit jar and cover. The cover includes a lid (5) and a metallic cap (4), which threadably attaches to a bottle neck. An O-ring (12) is provided between a registering groove (11) in the lid (5) and an annular groove (10) formed in a top annular surface of the bottle neck. Please note the Figure and column 1, line 24 to column 2, line 50 of Mallo.

According to the Office Action, Mallo teaches a sealing disc (9) of hard material, first and second extremely flat surfaces and first and secondary seals. Applicant respectfully disagrees. Applicant submits that Mallo does not teach or suggest that the surfaces of the lid (5), having a depending rim (9), and the annular ledge (6) of the bottle neck are extremely flat surfaces, as is claimed in claims 28 and 48. Further, Mallo also fails to teach or suggest that the depending rim (9) and the annular ledge (6) engage each other in parallel abutting contact to form a first surface tension seal, as is claimed in claims 28 and 48. Rather, Mallo teaches that the depending rim (9) and the annular ledge (6) do not engage at all when the jar is closed, as illustrated in the Figure. Thus, the only seal taught by Mallo is the seal formed by the O-ring (12) between the lid (5) and the bottle neck. Finally, Mallo fails to teach or suggest that any of the surfaces of the bottle neck and the lid (5) are extremely flat with a flatness in the order of a

few wavelengths of visible light. Accordingly, Applicant submits that Mallo fails to anticipate the subject matter of claims 28 and 48, as amended.

Williams teaches a jar closure that includes a cap (17) having a V-shaped channel (20) formed therein. A bottle neck (12) includes inner (15) and outer (14) bevels defining a ledge peak at the top end thereof of the neck (12). A sealing ring (16) is positioned between the inner bevel (15) of the neck (12) and a corresponding surface of the channel (20) of the cap (17) to provide a seal between the cap (17) and the bottle neck (12) when the cap (17) is secured on the bottle neck (12). Please note Figs. 1-3 and column 1, line 26 to column 2, line 28 of Williams.

According to the Office Action, Williams teaches that the inner bevel (15) of the bottle neck (12) and the corresponding surface of the channel (20) of the cap (17) are extremely flat surfaces and first and secondary seals. Applicant respectfully disagrees. Applicant submits that Williams does not teach or suggest that the surfaces of the cap (17) and the inner bevel (15) of the bottle neck (12) are extremely flat surfaces, as is claimed in claims 28 and 48. Further, Williams also fails to teach or suggest that the cap (17) and the inner bevel (15) engage each other in parallel abutting contact to form a first surface tension seal, as is claimed in claims 28 and 48. Rather, Williams teaches that the cap (17) and the inner bevel (15) of the bottle neck (12) do not engage at all when the jar is closed, as illustrated in Fig. 3. Thus, the only seal taught by Williams is the seal formed by the sealing ring (16) between the cap (17) and the bottle neck (12). Finally, Williams fails to teach or suggest that any of the surfaces of the bottle neck (12) and the cap (17) are extremely flat with a flatness in the order of a few wavelengths of visible light. Accordingly, Applicant submits that Williams fails to anticipate the subject matter of claims 28 and 48, as amended.

With respect to Taliaferro, this reference teaches a bottle cap having a top portion (3) and a depending flange portion (4) that threadably engages an exterior of a bottle (1). A sealing gasket (8, 10) is disposed between the top portion (3) of the cap and the bottle (1) so as to

engage the seat (9) at the extreme outer end of the bottle neck. The sealing gasket (8, 10), which is formed of plastic rubber, is softened by heating and pressure so as to be deformed around the seat (9) in order to form a seal for the bottle (1). Please note Figs. 1-3 and column 2, line 70 to column 3, line 17 of Taliaferro.

As acknowledged by the Office Action, Taliaferro fails to teach or suggest that the gasket (8) is formed of a hard material. However, the Office Action asserts that Mallo teaches to provide a closure having a disc of hard material and an annular resilient membrane for engagement between the disc and an annular surface of the bottle neck and that it would have been obvious to modify the closure taught by Taliaferro to reach the claimed invention. Applicant respectfully disagrees.

Taliaferro and Mallo both teach that the primary seal between the closure and the bottle neck is formed by a resilient material disposed between the bottle neck and a cap or lid. Neither of these references teach nor suggest that a surface of a sealing disc of a hard material engages an annular surface of a container in parallel abutting contact to form a first surface tension seal or that these surfaces are extremely flat having a flatness in the order of a few wavelengths of visible light, as is claimed in claims 28 and 48. At best, the combined teachings of Taliaferro and Mallo suggest a modification to the closure of Taliaferro to provide a rigid lid with the sealing disc (8) of Taliaferro, or an annular equivalent thereof, disposed between the lid and the neck of the bottle to form a single seal corresponding to the claimed secondary seal only. Mallo, therefore, fails to provide a reasonable expectation to one having ordinary skill in the art that a first surface tension seal could be formed in a closure according to the combined teachings of Mallo and Taliaferro. Mallo, therefore, does not fairly suggest a modification to the closure taught by Taliaferro that achieves the claimed invention.

Applicant submits that claims 27 and 48, as amended, are allowable for at least the foregoing reasons, as the teachings of the prior art of record, including Mallo, Williams and Taliaferro, fails to teach or suggest the claimed subject matter.

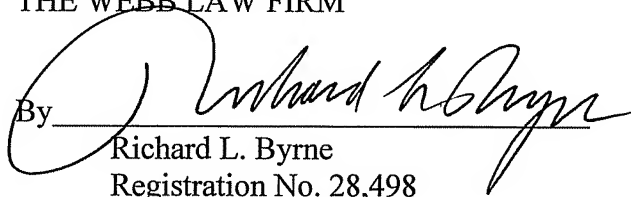
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Claims 29-47, 52, 54 and 55 are dependent upon and add further limitations to independent claim 28. Claims 49-51 are dependent upon and add further limitations to independent claim 48. These claims are allowable for at least the same reasons discussed above in connection with claims 28 and 48.

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 28-52, 54 and 55 are respectfully requested.

Respectfully submitted,
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